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ENVIRONMENTAL REMEDIATION OF DIOXIN CONTAMINATION AT DANANG AIRPORT

JUNE 2012 – JUNE 2018 | IMPLEMENTERS: CDM SMITH, INC., TETRA TECH, INC., TERRATHERM, INC. | PLANNED BUDGET: $110 MILLION

At the request of the Government of Vietnam (GVN), the U.S. Government agreed to complete the environmental remediation, or cleanup, of the Danang Airport due to high dioxin concentrations in soil and sediment remaining from the U.S.-Vietnam War. In 2010, USAID completed an Environmental Assessment of the Danang Airport that estimated the volume of dioxin contaminated soil and sediment at the airport and evaluated multiple remediation strategies. In 2011, USAID and the Vietnamese Ministry of National Defense (MND) agreed to jointly implement the Danang Airport Remediation Project, which aims to clean up the dioxin contamination, eliminating the risk of dioxin exposure to the surrounding community, while developing Vietnamese capacity for environmental assessment and remediation activities.

ENVIRONMENTAL REMEDIATION PROCESS

The Danang Airport Remediation Project uses both thermal treatment and containment remediation approaches. The thermal treatment strategy involves three major steps: building an enclosed, above ground treatment structure; excavating and placing the dioxin-contaminated soil and sediment into the structure; and heating the contaminated soil and sediment to a high temperature (approximately 335°C) to destroy the dioxin. Following treatment, the soil and sediment is tested by both USAID and MND scientists to ensure it meets the approved GVN treatment goal. The treated material is then cooled, removed from the treatment structure and used as fill material on site to advance the Danang Airport's expansion plans. In addition to thermal treatment, USAID and MND are nearing completion of the land-filling of approximately 60,000 cubic meters of low concentration, dioxin-contaminated sediments. USAID, MND and the Vietnamese Ministry of Natural Resources and Environment agreed that containing these sediments was the appropriate means for preventing human health and environment impact over the long-term.

MAINTAINING HEALTH AND SAFETY

All remediation activities occur entirely within the military portion of the Danang Airport. Measures are in place to ensure that contaminated soil, sediment, dust and water do not leave the project area. International safe work practices for hazardous waste sites are followed for all remediation activities, including worker monitoring and health and safety training. The project has achieved over one million accident-free work hours through more than 20,000 hours of worker training, building sustainable local capacity for best construction practices.

RESULTS

In May 2015, USAID and MND confirmed successful treatment of approximately 45,000 cubic meters of dioxin-contaminated material. The GVN officially accepted the first phase of treated land and treated soil in May 2016. The second and final phase of treatment was completed in June 2017, successfully treating almost 50,000 additional cubic meters of dioxin–contaminated material, also to be utilized for beneficial reuse by the Airport. USAID expects full site restoration and project closure by the end of 2018.

In the photo: The structure for thermal treatment at Danang Airport – equal to the size of a two-storey tall, American football field. (TetraTech, Inc).